

THE AMERICAN SPECIES OF TRICHODES (Coleoptera, Cleridae)

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A third of a century has elapsed since the writer prepared his synopsis of the *Trichodes*¹. At that time ten species were known from our fauna, later two other species were described, the first of these being *bicinctus* Green, the other *basalis* Van Dyke, thus bringing the number of known species to an even dozen. As it is likely that few, if any, remain to be discovered the present time appears to be opportune for the presentation of an amended and augmented table of species.

It is very probable that eventually the name *Trichodes* Herbst, will have to be dropped in favor of *Clerus* Fab. John Curtis² in 1824 designated *Attelabus apiarius* Linn., as the genotype of *Clerus*, in which move he was followed by a number of other writers. In 1840 F. W. Hope³ also designated *T. apiarius* Linn., as type of *Clerus* Latr., and synonymized it with *Trichodes* Fab. Dr. E. A. Chapin (*in litt*) who has thoroughly investigated the status of these two generic names finds that they are isotypical and that *Clerus* Fab. (1775) has priority over *Trichodes* Herbst (1792). Thus in conformity with the rules of nomenclatural procedure it will be necessary to substitute *Clerus* Fab. for the name *Trichodes* of Herbst.

The present writer retains the name *Trichodes* merely as a matter of convenience.

KEY TO THE AMERICAN SPECIES OF TRICHODES

1. Form slender; elytra at base two-fifths as wide as long.....2
 Form moderately robust; elytra at base subequal to one-half
 their length10
2. Antennal clava broadly triangular, about one-half longer than
 broad3
 Antennal clava elongate-triangular, twice as long as broad..15
3. Elytral apex truncate (rounded in *bicinctus* and *bibalteatus*..4
 Elytral apex rounded.....10
4. Abdomen blue black, in part red.....*oresterus* Wolcott
 Abdomen and legs yellowish-brown.....5

¹ Wolcott, A. B., 1910, Notes on some Cleridae of Middle and North America, Field Mus. Nat. Hist., Zool. Ser., 7(10):339-401, Pls. 5-6.

² Curtis, John, 1824, The Genera of Insects, British Ent., 1:44.

³ Hope, F. W., 1840, The Coleopterist's Manual, 3:137.

5. Pronotum metallic green, coarsely, not cribrately punctate, disk shining.....*basalis* Van Dyke
Pronotum black with greenish lustre.....6
6. Elytra fulvous or reddish, fasciae black.....*bicinctus* Green
Elytra ferrugineous7
7. Legs usually wholly or in part ferrugineous; funicle of antennae rufous, clava darker; flanks of elytra and yellow fasciae broadly bordered with dull black..*horni* Wolcott and Chapin
Legs and antenna black.....8
8. Elytra dull black, abdomen shining olive green.....
.....*peninsularis* Horn
Elytra yellow or orange red.....9
9. Two elytral fasciae and apex blue, truncate.....*simulator* Horn
Two elytral fasciae black, apex rounded, immaculate; abdomen dark blue, apical segment always red.....*bibalteatus* LeConte
10. Elytra feebly shining black, with faint cupreous lustre; abdomen dark green, in part red.....*nexus* Wolcott
Elytra shining blue, green, yellow or red.....11
11. Prothorax with sides compressed at apex, strongly compressed at base12
Prothorax subquadrate, sides feebly compressed at apex and base13
12. Pronotum blue or green, moderately sparsely, rather coarsely punctate, clothed with rather long dense yellow pubescence.....
.....*ornatus* Say
Pronotum dark aeneous, moderately densely, rather coarsely and shallowly punctate, clothed with rather long, dark fulvous or tawny pubescence14
13. Robust; elytral fasciae scarcely discernible, only evident by reason of the more sparse but coarse, confluent punctuation of the areas normally occupied by the yellow fasciae of the elytra.....*ornatus* var. *obsoletus* Wolcott
Slender, small, otherwise as in typical form.....
.....*ornatus* var. *tenellus* LeConte
14. Elytra dark blue with a more or less rounded red or yellow maculation at middle, contiguous to lateral margins.....
.....*bimaculatus* LeConte
Elytra blue, trifasciate with yellow or red.....15
15. Pronotum blue, rather finely, moderately densely punctate, clothed with rather long dense grayish pubescence.....
.....*nutalli* Kirby
Pronotum dark brown, clothed with rather long dense brownish pubescence. Elytra red or yellow, two fasciae and apices blue or purple black.....*apivorus* Germar
Anterior fascia reduced to a large irregularly rounded maculation on each elytron, postmedian fascia broadly interrupted at the suture....var. *borealis* Wolcott and Chapin

NOTES ON SOME SPECIES OF TRICHODES

TRICHODES BASALIS VAN DYKE

Trichodes basalis Van Dyke, 1943, Pan-Pac. Ent., 19:41.

Dr. E. G. Linsley has very kindly supplied the writer with an excellent sketch of the elytral markings of the type specimen of this species, a copy of which is presented (Fig. 1). Dr. Linsley also sent some helpful and valuable notes pertaining to this species, which are quoted in their entirety "In form it resembles a slender specimen of *oresterus* Wolcott, the basic elytral pattern is also similar to some examples of *oresterus*. However, the pale areas of the elytra are clear yellow without any reddish or orange tint. The pronotal pubescence is yellow and a little longer (possibly also denser) than in my series of *oresterus*. The punctures of the pronotum and elytra are coarse but less deep than those of *oresterus*. Likewise the legs and entire under surface is brownish-yellow in contrast to the blue color and red abdomen of *oresterus*." (Linsley, *in litt.*)

Type locality: Imperial County, California.

TRICHODES BICINCTUS GREEN

Trichodes bicinctus Green, 1917, Ent. News., 28:367.

Dr. J. W. Green very generously gave the writer one of the two males mentioned in his original description of this species. The specimen is from Green Valley, Brewster County, Texas, July 14, collected by J. W. Green. It agrees with the description in every detail. A figure of the elytral pattern is shown (Fig. 2).

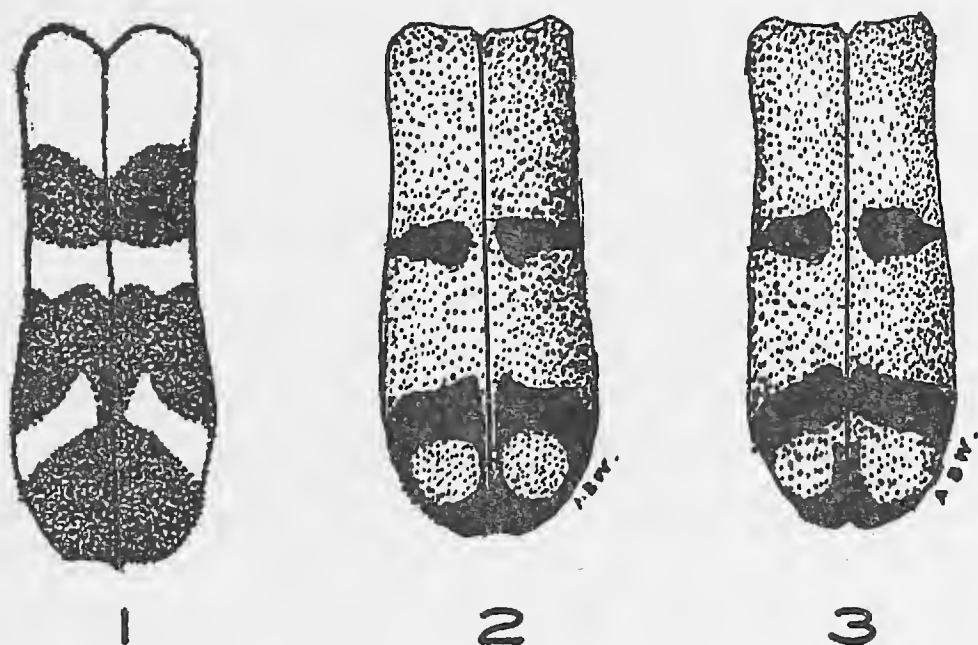
Dr. Linsley also presented the author with a pair of this species, male and female, taken on flowers at Laredo, Texas, June 12, 1932. In both of these specimens the body beneath is green, the abdomen greenish black. The black elytral markings reduced to two transverse maculations on each elytron and the apex with a narrow lunate maculation. This form is represented by the figure given (Fig. 3). The elytral apex is rounded in both sexes.

TRICHODES HORNI WOLCOTT AND CHAPIN

Trichodes horni Wolcott and Chapin, 1918, Bull. Brooklyn Ent. Soc., 13:107.

Trichodes illustris Horn, 1876, Trans. Amer. Ent. Soc., 5:231.

As pointed out by Wolcott and Chapin *illustris* is preoccupied and the name *horni* has been substituted in its stead. Horn in his description states that "the elytra . . . conjointly rounded ♂, truncate and sinuate at tip ♀." The elytra are always more or less truncate in both sexes, never conjointly rounded, the truncature being merely of less extent in the ♂ than in the ♀. A rather small specimen of this species from the Santa Rita Moun-



ELYTRAL PATTERN IN TRICHODES

Fig. 1. *Trichodes basalis* Van Dyke. 2. *T. bicinctus* Green. 3. *T. bicinctus* var.

tains, Arizona, September 29, 1932, has the elytra, with the exception of the yellow fasciae, entirely dull black with a small rounded maculation on each midway between the median and anteapical fasciae, red.

In the text of the writer's descriptive notes³ the fourth line under *T. illustris* Horn, "*The more finely punctured head,*" should read "*The more coarsely punctured head.*"

³ Wolcott, A. B., 1910, l. c., 7(10):369.

TRICHODES SIMULATOR HORN

Trichodes simulator Horn, 1880, Trans. Amer. Ent. Soc., 8:149, 1880.

Trichodes simulator flavescens Cockerell, 1898, New Mex. Agr. Exp. Sta. Bull. 28:155.

Trichodes simulator Wolcott, 1910, Field Mus. Nat. Hist., Zool. Ser., 7(10):170.

Abdomen shining blue, terminal segment deep blue black. Body beneath densely clothed with long semi-recumbent yellowish-white pilosity, the abdomen with short, sparse pile. Legs dark blue with greenish lustre, tarsi obscurely testaceous. Elytral apices in both sexes truncate. The following localities may be added to those already recorded: Bandelier, New Mexico; Cedar City, Utah; Grand Junction and Craig, Colorado.

TRICHODES BIBALTEATUS LECONTE

Trichodes bibalteatus LeConte, 1858, Jour. Acad. Nat. Sci. Phil., (2)4:18; Horn, 1876, Trans. Amer. Ent. Soc., 5:231; Wolcott, 1910, Field Mus. Nat. Hist., Zool. Ser., 7(10):371.

The blue abdomen has the terminal segment always red, often obscurely so in the female, rarely the entire abdomen red, with the exception of the basal and second segment, which are blue. The elytral apices are rounded in both sexes. To the recorded localities may be added: Fedor, Lee County, Texas (Birkmann), and Oklahoma.

TRICHODES ORNATUS SAY

Trichodes ornatus Say, 1825, Jour. Acad. Nat. Sci. Phila., 3:189; Klug, 1842, Abh. Berl. Akad., p. 340; Spinola, 1844, Mon. Clér., 1:327, Pl. 31, fig. 5; LeConte, 1849, Ann. Lye. Nat. Hist. N. Y., 5:18; Say's Comp. Writ., Lec. ed., 1859, 2:120; Horn, 1876, Trans. Amer. Ent. Soc., 5:231; Horn, 1891, Ent. News, 2:6; Cockerell, 1893, Trans. Amer. Ent. Soc., 20:329; Wickham, 1893, Can. Ent. 27:249; Wolcott, 1910, Field Mus. Nat. Hist., Zool. Ser., 7(10):172.

Trichodes Hartwegianus White, 1849, Cat. Cler. Brit. Mus., 4:60; Cockerell, 1893, Trans. Amer. Ent. Soc., 20:329.

Trichodes Douglasianus White, 1849, Cat. Cler. Brit. Mus. 4:60; Cockerell, 1893, Trans. Amer. Ent. Soc., 20:329.

A large example of this species from Banff, Alberta, has quite broad elytral markings, but the basal fascia is broadly inter-

rupted at the suture, from the inner end of the remaining portion of this fascia a backward extending broad vitta is united near suture with the median fascia. In a specimen from Parma, Idaho, the basal three-fifths of the elytra red, the posterior margin of this portion truncate, the red portion has the humeral umbones and a very small oblique maculation at the middle blue, the apical two-fifths blue, with the usual oblique yellow fascia of this part. In another specimen from the same locality the elytra are entirely red, with a small postmedian marginal maculation and the apices narrowly blue. In a specimen from Aspen Lake, Klamath County, Oregon, the elytra are entirely blue, with a very small transverse yellow maculation distant from lateral margin, at middle of each elytron.

To the localities in which *T. ornatus* and *T. nutalli* occur in common Pike's Peak, Colorado, may be added.

Trichodes ornatus var. nov. *obsoletus* Wolcott

Form rather robust, Elytra at base nearly one-half as broad as long, sides straight and parallel, scutellar area deeply and broadly depressed, base midway between the scutellar depression and the humeri depressed, thus causing the humeral umbones to appear very prominent, each elytron with a deep, rather broad groove parallel to the suture, extends from the scutellar depression nearly to the elytral apex. Head dark green, rather shining with slight aeneous lustre, coarsely roughly sculptured, antennal clava broad, short. The antennae, palpi, tibiae and tarsi fulvous, clothed with short, rather dense fulvous pile. Pronotum green, with distinct aeneous lustre, coarsely, rather sparsely, irregularly punctate. Elytra cyaneus with cupreous lustre, moderately shining, coarsely, densely punctate, sutural bead very dark blue, elytral markings arranged as in *T. ornatus*, but practically obsolete, faintly badius and this covered by a faintly sordid whitish surface gloss. The head, pronotum and elytra clothed with fulvous pile, quite dense and longest on head, pronotum and base and apex of the elytra. Body beneath and abdomen green with cupreous lustre. Length 10 mm.; breadth (across humeri) 3 mm.

Holotype (♂), SIERRA ANCHA MTS., ARIZONA. (D. K. Duncan) in collection of the author.

This form would appear to be sufficiently distinct to be classed as a valid species, but the pattern of the scarcely discernible elytral markings, which, by the way, are very difficult to describe, show it to be a mere variety of *T. ornatus* Say.

TRICHODES NUTALLI KIRBY

Trichodes nutalli Wolcott, 1910, Field Mus. Nat. Hist., Zool. Ser., 7(10):174.

Under this species the synonym *Trichodes nutalli* of Say should be transferred to the synonymy of *T. apivorus* Germar.

TRICHODES APIVORUS VAR. BOREALIS WOLCOTT AND CHAPIN

This name (which appears in the key) was proposed by the authors to replace the preoccupied name *interruptus* LeConte.

HIBERNATION OF DASYMUTILLA AUREOLA PACIFICA

On January 21, 1944, while collecting under rocks near Patterson Pass, Alameda County, California, elevation 1150 feet, two unworn female *Dasymutilla aureola pacifica* (Cresson) were found in hibernation. Under the same rock was a broken 3-cell nest of *Sceliphron servillei* (Lepeletier) which apparently had not produced adult wasps.

Mickel¹ cites common records of *aureola pacifica* from March through November, while a single December and a single January record are also given for Berkeley. Mickel also notes that a very great size variation is known in the female, indicating the probability of a variety of hosts. In his general summary of the life history of a Mutillid it appears that hibernation is normal for the prepupal stage. Bohart and MacSwain² give the activity record for another species (*D. sackenii* (Cresson) as June to November and state that pupation occurs in spring or early summer, after hibernation in a prepupal stage.

It would appear possible that in this case *Sceliphron* had served as the host and that the life cycle was such as to produce fresh adult females in the late fall or winter months. Such a cycle is at variance with those reported by Mickel and by Bohart and MacSwain, although Mickel lists specimens taken in the winter months. It is possible that these also were hibernating.

Determination of the mutillids was made by Mickel; of the wasp nest by E. Gorton Linsley.—R.W.L.POTTS and R.F.SMITH.

¹ Mickel, C. E., 1928, Biological and Taxonomic Investigations on the Mutillid Wasps, U. S. Nat. Mus. Bull. 143.

² Bohart, G. E., and J. W. MacSwain, 1939, The Life History of the Sand Wasp, *Bembix occidentalis beutenmuelleri* Fox and its Parasites. Bull. So. Calif. Acad. Sci., 38(2):84-98.